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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/518,118	12/15/2004	Liuzhu Gong	1238.72142	3259

24978 7590 01/06/2006

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CHICAGO, IL 60606

EXAMINER	
BROWN, JENNINE M	

ART UNIT	PAPER NUMBER
1755	

DATE MAILED: 01/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/518,118	GONG ET AL.	
	Examiner	Art Unit	
	Jennine M. Brown	1755	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-14 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-14 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 12/15/04.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Information Disclosure Statement

The information disclosure statement (IDS) submitted on 12/15/05 was considered by the examiner.

Claim Objections

Claim 10 is objected to because of the following informalities: the term "3'3-bi-formly –biphenol" is not the proper name for the starting material. Appropriate correction is required.

According to MPEP 2111.04, "Claim scope is not limited by claim language that suggests or makes optional but does not require steps to be performed, or by claim language that does not limit a claim to a particular structure. However, examples of claim language, although not exhaustive, that may raise a question as to the limiting effect of the language in a claim are: (A) "adapted to" or "adapted for" clauses; (B) "wherein" clauses; and (C) "whereby" clauses. The determination of whether each of these clauses is a limitation in a claim depends on the specific facts of the case. In Hoffer v. Microsoft Corp., 405 F.3d 1326, 1329, 74 USPQ2d 1481, 1483 (Fed. Cir. 2005), the court held that when a "whereby' clause states a condition that is material to patentability, it cannot be ignored in order to change the substance of the invention." Id. However, the court noted (quoting Minton v. Nat 'l Ass 'n of Securities Dealers, Inc., 336 F.3d 1373, 1381, 67 USPQ2d 1614, 1620 (Fed. Cir. 2003)) that a "whereby clause in a method claim is not given weight when it simply expresses the intended result of a process step positively recited.'" Id." Examiner suggests modifying the claims to

conform to current US practice by using "comprising", "consisting essentially of" or "consisting of". Examiner assumes the language to be open ended in order to advance prosecution of the instant claims.

Claims Analysis

Claims 1-9 are product by process claims and as such will be considered only insofar as they affect the structure of the final product. Consequently, if the prior art teaches or suggests the same structure of the final product claimed but does not teach or suggest the process, applicant must provide a showing to the contrary.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-9, 11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is unclear what applicant means to claim in claims 1-9 when stating that the "configuration of the amino acid is R or S" because the formula given in claim 1 does not show the reactants but the product produced. It is unclear as to how the applicant is determining the chirality of the ligand or the metal ligand complex. It is unclear whether each R group is to determine stereochemistry or whether only one R group is to be used for determining stereochemistry and should clearly be stated as such.

Claim 11 recites the limitation "the solution". There is insufficient antecedent basis for this limitation in claim 10. The claim is not further limiting.

Claim 12 recites the limitation "the weight ratio". There is insufficient antecedent basis for this limitation in claim 10. The claim is not further limiting.

Claim 13 recites the limitation "the molar ratio". There is insufficient antecedent basis for this limitation in claim 10. The claim is not further limiting.

Claim 14 provides for the use of a chiral catalyst used for oxidative coupling, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced. Claim 14 also uses the language "can catalyze" which means that it has the ability to but may not actually do what applicant intends to claim therefore it is indefinite.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

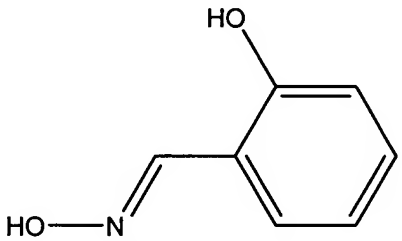
The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujita, et al. (US 6875718 B2) in view of Liu, et al. (Inorg. Chem. 2001) and Bell, et al. (WO 94/03271 A1).

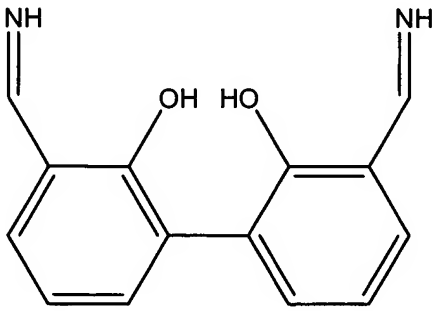
See all disclosures in their entirety. Regarding claims 1-9:

Fujita, et al. disclose numerous transition metal compounds that are variations on salicylaldoxime compounds:

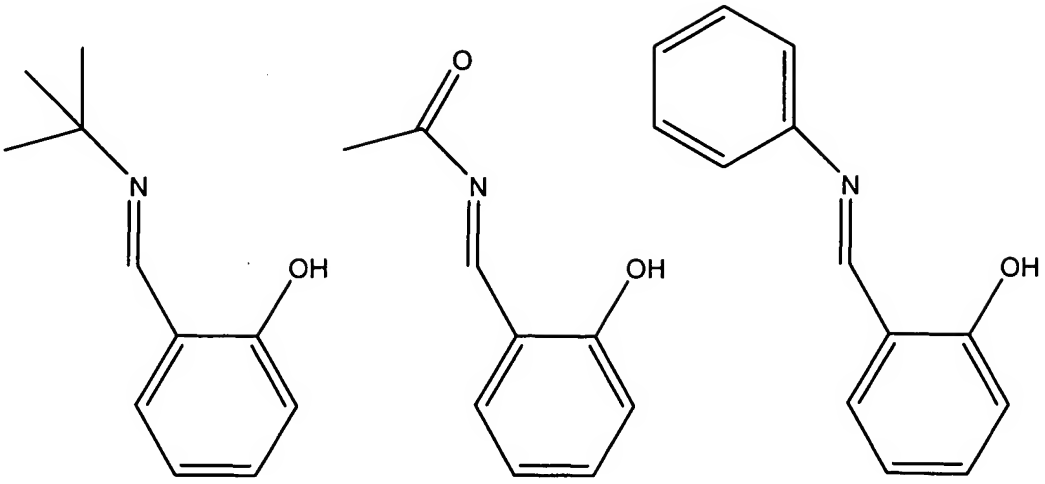


salicylaldoxime

wherein the phenyl groups are bridging:



and various alkyl and aryl groups are attached to the nitrogen group:



which like the salen catalysts disclosed by Liu, et al. are combined with $VOSO_4$ to create a Schiff base. One of ordinary skill in the art would be able to modify the Schiff base complexes of Liu, et al. to use different complexes such as those disclosed by Fujita, et al. to provide catalysts having differing properties based on the stereorigidity and chirality of the compound produced so that when used as a catalyst chiral compounds may be formed (Bell, et al. page 1).

Regarding claims 10-13:

Liu, et al. disclose in their experimental section, under the subtitle materials, that the Schiff bases were prepared by condensing aldehydes with diamines in ethanol and the resulting insoluble ligand could be isolated by filtration but usually just added to VOSO4 and refluxing for ca. 4 h. which resulted in an oxovanadium(IV) Schiff base and filtered to isolate having a yield of 70-90%. The method only differs in the particular Schiff base used and for the reasons stated hereinabove it would have been obvious to one of ordinary skill in the art to substitute different Schiff bases to produce a catalytic product such as that claimed by applicant.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennine M. Brown whose telephone number is (571) 272-1364. The examiner can normally be reached on M-R 9:30 AM - 7:30 PM; Fridays off.

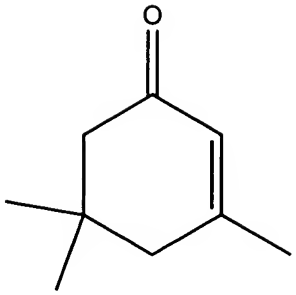
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on (571) 272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

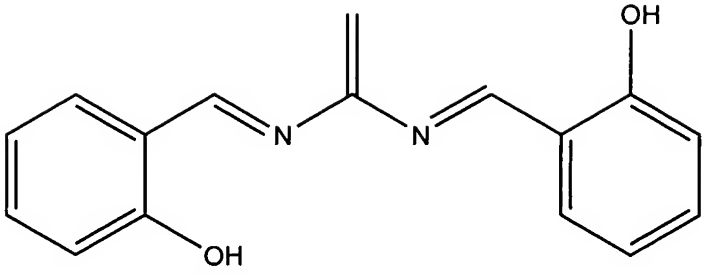
jmb

J.A. LORENGO
SUPERVISORY PATENT EXAMINER

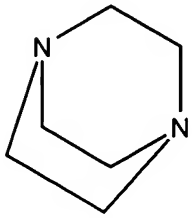
10/518118



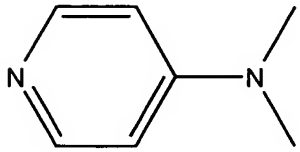
isophorone



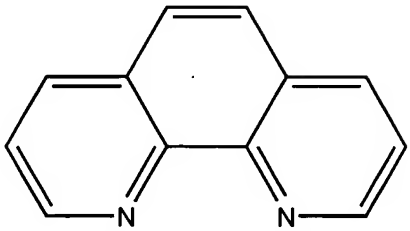
N,N'-disalicylideneethenediamine



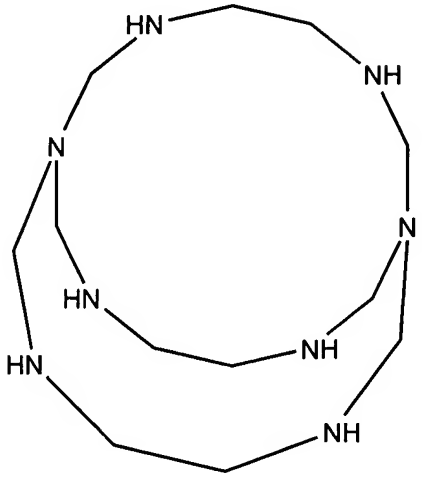
1,4-diazabicyclo[2.2.2]octane



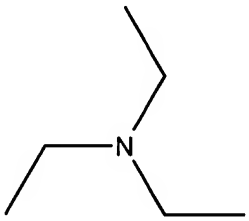
4-dimethylaminopyridine



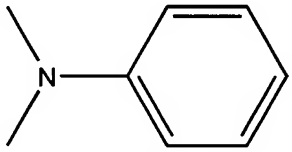
1,10-phenanthroline



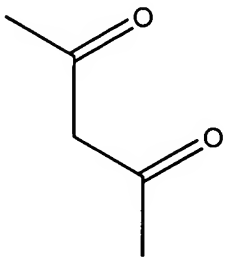
1,3,6,8,10,13,16,19-octazabicyclo[6,6,6]eicosane

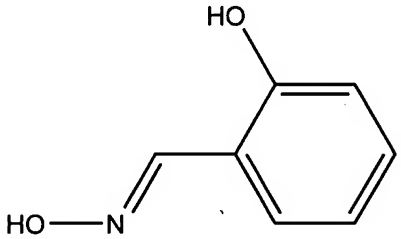


triethylamine

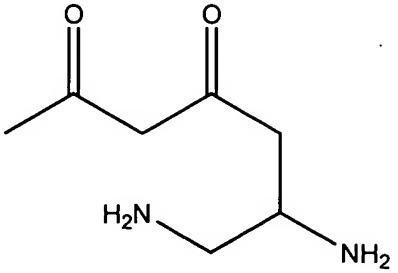


dimethylaniline

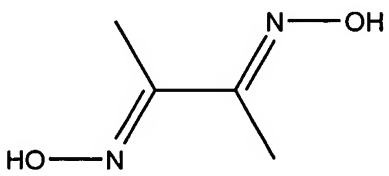




salicylaldoxime



bisacetylacetone-ethylenediimine



dimethylglyoxime

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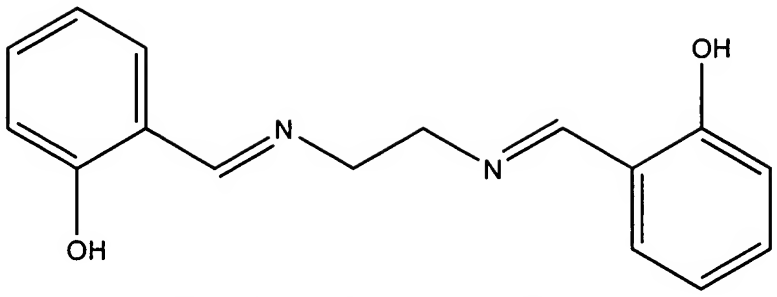

N,N'-disalicylideneethylenediamine